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## MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

**Hartzell Fan, Inc.  
1700 North Meridian Street  
Portland, Indiana 47317-1206**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 075-14982-00018	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date:  Expiration Date:

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## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in Conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

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The Permittee owns and operates a stationary fan and blower manufacturing source.

Authorized Individual:	President
Source Address:	1700 North Meridian Street, Portland, Indiana 47371-1206
Mailing Address:	910 South Downing Street, Piqua, Ohio 45346
General Source Phone:	260-726-9331
SIC Code:	3564
County Location:	Jay
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Minor Source, under PSD Rules; Minor Source, Section 112 of the Clean Air Act

### A.2 Emissions Units and Pollution Control Equipment Summary

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This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) Two (2) paint booths, identified as P-1 and P-2, constructed in 1975, operating one (1) airless spray gun at a time, equipped with dry filters to control particulate overspray, exhausting through Stacks P-1 and P-2, capacity: 2.00 metal fan parts per hour.
- (b) Two (2) fiberglass spray booths, delivering resin to the applicators, identified as G-1 and G-2, constructed in 1976, operating one (1) mechanical non-atomized spray gun at a time, equipped with dry filters to control particulate overspray, exhausting through Stacks G-1 or G-2, capacity: 0.300 fiberglass fan parts per hour.
- (c) Two (2) fiberglass sanding booths, identified as 95-S-1 and 95-S-2, constructed in 1995, equipped with an ultra web filter for control, exhausting through Stacks 95-S-1 and 95-S-2 which discharge inside the plant, capacity: one (1) 60 pound fan per hour per booth.
- (d) One (1) fiberglass sawing station, identified as FG-Saw, constructed in 1996, equipped with dry filters for particulate control, exhausting through stack FG-Saw which discharges inside the plant, capacity: 300 pounds of raw material per hour.
- (e) One (1) enclosed pneumatic blasting facility, identified as AB-1, constructed in 2000, equipped with a floor recovery system, cyclone separator reclaim and two (2) baghouses, identified as DFT3-24 and RPH3, capacity: 864 pounds per hour of brown fused aluminum oxide blasting media and 900 pounds per hour of metal and fiberglass fan parts.
- (f) One (1) enclosed pneumatic blasting facility, identified as Cabinet Blaster, using aluminum oxide blasting media, equipped with a baghouse, identified as CB-1, capacity: 354 pounds per hour of brown fused aluminum oxide blasting media and 147 pounds per hour of metal and fiberglass fan parts.

- (g) Source-wide natural gas-fired combustion, consisting of the following:
  - (1) Two (2) test stations, identified as TS-1 and TS-2, constructed in 1970, heat input capacity: 1.00 million British thermal units per hour, total;
  - (2) One (1) air make-up unit, identified as AMU #5, constructed in 1995, heat input capacity: 2.50 million British thermal units per hour;
  - (3) Two (2) air make-up units, identified as AMU #6 and AMU #7, constructed in 1995, heat input capacity: 5.00 million British thermal units per hour, each;
  - (4) Three (3) door heaters, identified as DH-1, DH-2, and DH-3, constructed in 1995, heat input capacity: 0.990 million British thermal units per hour, each;
  - (5) One (1) unit heater, identified as UH-1, constructed in 1995, exhausting through Stack UH-1, heat input capacity: 0.080 million British thermal units per hour;
  - (6) One (1) landa wash booth heater, identified as WB-1, constructed in 1995, exhausting through Stack WB-1, heat input capacity: 0.350 million British thermal units per hour; and
  - (7) One (1) office space heater, identified as OHU #1, constructed in 1998, exhausting through Stack OHU #1, heat input capacity: 0.080 million British thermal units per hour.
- (h) Eight (8) metal inert gas (MIG) welding stations consisting of the following:
  - (1) Two (2) MIG welding stations, identified as WS-2 and WS-6, constructed in 1978, using 4043, 316LHS, or BR-3 welding wire, capacity: 3.00 pounds of welding wire per hour, each;
  - (2) Two (2) MIG welding stations, identified as WS-1 and WS-7, constructed in 1995, using 4043, 316LHS, or BR-3 welding wire, capacity: 3.00 pounds of welding wire per hour, each;
  - (3) One (1) MIG welding station, identified as WS-3, constructed in 1996, using 4043, 316LHS, or BR-3 welding wire, capacity: 3.00 pounds of welding wire per hour;
  - (4) Two (2) MIG welding stations, identified as WS-4 and WS-5, constructed in 1998, using 4043, 316LHS, or BR-3 welding wire, capacity 3.00 pounds of welding wire per hour, each; and
  - (5) One (1) MIG welding station, identified as WS-4030, constructed in 1995, using 4043, 316LHS, or BR-3 welding wire, capacity 3.00 pounds of welding wire per hour.
- (i) Two (2) oxyacetylene flame cutting stations, identified as AO-1 and AO-2, with a rate of thirty (30) inches per minute at a 3/8 inch thickness (formerly insignificant activities in FESOP 075-8564-00018, issued on September 26, 1997).
- (j) Five (5) spot welders, consisting of one (1) spot welding station, identified as SPW-4, constructed in 1975 and four (4) spot welding stations, identified as SPW-1, SPW-2, SPW-3, and SPW-5, constructed in 1996, emitting less than 0.551 pounds of particulate per hour, total.

- (k) One (1) MG Hydefinition machine (plasma cutter), identified as MG-1, equipped with a dust collector with ultra web filter for particulate control, exhausting inside, cuts at 80 inches per minute on 16 gauge hot rolled steel material to 20 inches per minute on 1/4 inch hot rolled steel.
- (l) One (1) portable plasma cutter, exhausting inside, cuts at 12 inches per minute on 3/8 inch hot rolled steel.
- (m) One (1) fiberglass press operation, identified as SMC-1, capacity 10,279 pounds of styrene composite material per year.

## **SECTION B GENERAL CONDITIONS**

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

### **B.1 Permit No Defense [IC 13]**

This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

### **B.2 Definitions**

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

### **B.3 Effective Date of the Permit [IC13-15-5-3]**

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

### **B.4 Permit Term and Renewal [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5]**

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions of this permit do not affect the expiration date.

The Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date. If a timely and sufficient permit application for a renewal has been made, this permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

### **B.5 Modification to Permit [326 IAC 2]**

All requirements and conditions of this operating permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

### **B.6 Annual Notification [326 IAC 2-6.1-5(a)(5)]**

(a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.

(b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.

(c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Branch, Office of Air Quality  
Indiana Department of Environmental Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, IN 46206-6015

(d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date

it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

**B.7 Preventive Maintenance Plan [326 IAC 1-6-3]**

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:
  - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ,. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

**B.8 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]**

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- (a) Permit revisions are governed by the requirements of 326 IAC 2-6.1-6.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

**B.9 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2]**

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Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:



- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

**B.10 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]**  
Pursuant to [326 IAC 2-6.1-6(d)(3)] :

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- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

**B.11 Annual Fee Payment [326 IAC 2-1.1-7]**

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- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, I/M & Billing Section), to determine the appropriate permit fee.

## SECTION C SOURCE OPERATION CONDITIONS

<b>Entire Source</b>
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**C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [40 CFR 52 Subpart P][326 IAC 6-3-2]**

- (a) Pursuant to 40 CFR 52 Subpart P, the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2(e)(2), the allowable particulate emissions rate from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

**C.2 Permit Revocation [326 IAC 2-1.1-9]**

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

**C.3 Opacity [326 IAC 5-1]**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**C.4 Fugitive Dust Emissions [326 IAC 6-4]**

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.5 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
  - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
  - (2) If there is a change in the following:
    - (A) Asbestos removal or demolition start date;
    - (B) Removal or demolition contractor; or
    - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-7-1(34).

- (e) Procedures for Asbestos Emission Control  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) Indiana Accredited Asbestos Inspector  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited, pursuant to the provisions of 40 CFR 61, Subpart M, is federally enforceable.

## Testing Requirements

### C.6 Performance Testing [326 IAC 3-6]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date.

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

## Compliance Requirements [326 IAC 2-1.1-11]

### C.7 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.

## Compliance Monitoring Requirements

### C.8 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

### C.9 Monitoring Methods [326 IAC 3][40 CFR 60][40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

### C.10 Compliance Response Plan - Preparation and Implementation

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:

- (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
  - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
  - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
  - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
  - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
  - (4) Failure to take reasonable response steps shall constitute a violation of the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
  - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
  - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.
  - (3) An automatic measurement was taken when the process was not operating.
  - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

**C.11 Actions Related to Noncompliance Demonstrated by a Stack Test**

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected emissions unit while the response actions are being implemented.

- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1.

### **Record Keeping and Reporting Requirements**

#### **C.12 Malfunctions Report [326 IAC 1-6-2]**

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

#### **C.13 General Record Keeping Requirements [326 IAC 2-6.1-5]**

- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented when operation begins.

#### **C.14 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]**

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) Unless otherwise specified in this permit, any report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

## SECTION D.1 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]: Two (2) Paint Booths and Two (2) Fiberglass Spray Booths

- (a) Two (2) paint booths, identified as P-1 and P-2, constructed in 1975, operating one (1) airless spray gun at a time, equipped with dry filters to control particulate overspray, exhausting through Stacks P-1 and P-2, capacity: 2.00 metal fan parts per hour.
- (b) Two (2) fiberglass spray booths, delivering resin to the applicators, identified as G-1 and G-2, constructed in 1976, operating one (1) mechanical non-atomized spray gun at a time, equipped with dry filters to control particulate overspray, exhausting through Stacks G-1 or G-2, capacity: 0.300 fiberglass fan parts per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards

#### D.1.1 Volatile Organic Compounds (VOC) Limitations [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9, the owner or operator shall not allow the discharge into the atmosphere of VOC in excess of three and five-tenths (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicator from the two (2) paint booths, identified as P-1 and P-2.

#### D.1.2 Volatile Organic Compound (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9 (f), all solvents sprayed from the application equipment of the two (2) paint booths, identified as P-1 and P-2, during cleanup or color changes shall be directed into containers. Said containers shall be closed as soon as the solvent spraying is complete. In addition, all waste solvent shall be disposed of in such a manner that minimizes evaporation.

#### D.1.3 Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs) [326 IAC 8-1-6] [326 IAC 2-7]

- (a) Any reconstruction that increases the potential to emit VOC from the two (2) fiberglass spray booths, identified as G-1 and G-2, to greater than or equal to twenty-five (25) tons per year, may render the requirements of 326 IAC 8-1-6 applicable and require prior IDEM, OAQ approval.
- (b) Any change or modification to the two (2) paint booths or two (2) fiberglass spray booths that increases the potential to emit of a single hazardous air pollutant (HAP) from the entire source to greater than ten (10) tons per year or the potential to emit of any combination of HAPs to greater than twenty-five (25) tons per year, shall require prior IDEM, OAQ approval.

#### D.1.4 Particulate Matter (PM) [40 CFR 52 Subpart P]

Pursuant to F 075-8564-00018, issued on September 26, 1997 and 40 CFR 52 Subpart P, the PM from the two (2) paint booths, identified as P-1 and P-2, and two (2) fiberglass spray booths, identified as G-1 and G-2 shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour



or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

**D.1.5 Particulate [326 IAC 6-3-2(d)]**

Pursuant to F 075-8564-00018, issued on September 26, 1997 and 326 IAC 6-3-2(d), particulate from the surface and fiberglass coating, shall be controlled by dry particulate filters, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

**D.1.6 Preventive Maintenance Plan [326 IAC 1-6-3]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the two (2) paint booths, identified as P-1 and P-2, the two (2) fiberglass spray booths, identified as G-1 and G-2, and their respective control devices.

**Compliance Determination Requirements**

**D.1.7 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]**

Compliance with the VOC content limit in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-2(a)(7), using a volume weighted average of coatings on a daily basis. This volume weighted average shall be determined by the following equation:

$$A = [ 3 C \times U ] / 3 U$$

Where: A is the volume weighted average in pounds VOC per gallon less water as applied;  
C is the VOC content of the coating in pounds VOC per gallon less water as applied;  
and U is the usage rate of the coating in gallons per day.

**Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

**D.1.8 Monitoring**

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating stacks (P-1 and P-2) and fiberglass booth stacks (G-1 or G-2) while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.
- (b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

**Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

**D.1.9 Record Keeping Requirements**

- (a) To document compliance with Conditions D.1.1 and D.1.3, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC and HAP usage and emission limits established in Conditions D.1.1 and D.1.3.
  - (1) The amount and VOC and HAP content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
  - (2) The volume weighted VOC content of the coatings used for each day;
  - (3) The cleanup solvent usage for each month;
  - (4) The total VOC and HAP usage for each month; and
  - (5) The weight of VOCs and HAPs emitted for each compliance period.
- (b) To document compliance with Conditions D.1.8, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.2 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]: Manufacturing Processes

- (c) Two (2) fiberglass sanding booths, identified as 95-S-1 and 95-S-2, constructed in 1995, equipped with an ultra web filter for control, exhausting through Stacks 95-S-1 and 95-S-2 which discharge inside the plant, capacity: one (1) 60 pound fan per hour per booth.
- (d) One (1) fiberglass sawing station, identified as FG-Saw, constructed in 1996, equipped with dry filters for particulate control, exhausting through stack FG-Saw which discharges inside the plant, capacity: 300 pounds of raw material per hour.
- (e) One (1) enclosed pneumatic blasting facility, identified as AB-1, constructed in 2000, equipped with a floor recovery system, cyclone separator reclaimers and two (2) baghouses, identified as DFT3-24 and RPH3, capacity: 864 pounds per hour of brown fused aluminum oxide blasting media and 900 pounds per hour of metal and fiberglass fan parts.
- (f) One (1) enclosed pneumatic blasting facility, identified as Cabinet Blaster, using aluminum oxide blasting media, equipped with a baghouse, identified as CB-1, capacity: 354 pounds per hour of brown fused aluminum oxide blasting media and 147 pounds per hour of metal and fiberglass fan parts.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards

#### D.2.1 Particulate [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the two (2) fiberglass sanding booths, identified as 95-S-1 and 95-S-2, shall not exceed 0.551 pounds per hour each when operating at a process weight rate of less than 100 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) fiberglass sawing station, identified as FG-Saw, shall not exceed 1.15 pounds per hour when operating at a process weight rate of 300 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

- (c) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) pneumatic blasting facility, constructed in 2000, shall not exceed 3.77 pounds per hour when operating at a process weight rate of 1764 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

- (d) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) pneumatic blasting facility, identified as Cabinet Blaster, shall not exceed 1.62 pounds per hour each when operating at a process weight rate of 501 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

#### **D.2.2 Preventive Maintenance Plan [326 IAC 1-6-3]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the two (2) fiberglass sanding booths, identified as 95-S-1 and 95-S-2, the one (1) fiberglass sawing station, identified as FG Saw, the one (1) pneumatic blasting facility, identified as AB-1, the one (1) pneumatic blasting facility, identified as Cabinet Blaster, and their respective control devices.

### **Compliance Determination Requirements**

#### **D.2.3 Particulate Control**

- (a) Pursuant to F 075-8564-00018, issued on September 26, 1997, and in order to comply with Condition D.2.1(a), the ultra web filter for particulate control shall be in operation and control emissions from the two (2) fiberglass sanding booths, identified as 95-S-1 and 95-S-2, at all times that the two (2) fiberglass sanding booths are in operation.
- (b) Pursuant to F 075-8564-00018, issued on September 26, 1997, and in order to comply with Condition D.2.1(b), the dry filters for particulate control shall be in operation and control emissions from the one (1) fiberglass sawing station, identified as FG Saw, at all times that the one (1) fiberglass sawing station is in operation.
- (c) Pursuant to SPR 075-8564-00018, issued on January 18, 2000, and in order to comply with Condition D.2.1(c), at least one (1) of the two (2) baghouses for particulate control shall be in operation and control emissions from the one (1) pneumatic blasting facility, identified as AB-1, at all times that the one (1) pneumatic blasting, identified as AB-1, is in operation.
- (d) In order to comply with Condition D.2.1(d), the baghouse for particulate control shall be in operation and control emissions from the one (1) pneumatic blasting facility, identified as Cabinet Blaster, at all times the one (1) pneumatic blasting facility, identified as Cabinet Blaster is in operation.

### **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

There are no specific Compliance Monitoring Requirements applicable to these emission units.

**Record Keeping and Reporting Requirement [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

There are no specific Record Keeping and Reporting Requirements applicable to these emission units.

**MALFUNCTION REPORT**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6  
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?\_\_\_\_\_, 25 TONS/YEAR SULFUR DIOXIDE ?\_\_\_\_\_, 25 TONS/YEAR NITROGEN OXIDES ?\_\_\_\_\_, 25 TONS/YEAR VOC ?\_\_\_\_\_, 25 TONS/YEAR HYDROGEN SULFIDE ?\_\_\_\_\_, 25 TONS/YEAR TOTAL REDUCED SULFUR ?\_\_\_\_\_, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?\_\_\_\_\_, 25 TONS/YEAR FLUORIDES ?\_\_\_\_\_, 100 TONS/YEAR CARBON MONOXIDE ?\_\_\_\_\_, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?\_\_\_\_\_, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?\_\_\_\_\_, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?\_\_\_\_\_, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?\_\_\_\_\_. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION \_\_\_\_\_.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC \_\_\_\_\_ OR, PERMIT CONDITION # \_\_\_\_\_ AND/OR PERMIT LIMIT OF \_\_\_\_\_

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ?    Y        N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ?    Y        N

COMPANY: \_\_\_\_\_ PHONE NO. : \_\_\_\_\_  
LOCATION: (CITY AND COUNTY) \_\_\_\_\_  
PERMIT NO. \_\_\_\_\_ AFS PLANT ID: \_\_\_\_\_ AFS POINT ID: \_\_\_\_\_ INSP: \_\_\_\_\_  
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: \_\_\_\_\_

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/20\_\_\_\_ \_\_\_\_\_ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/20\_\_\_\_ \_\_\_\_\_ AM / PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO<sub>2</sub>, VOC, OTHER: \_\_\_\_\_

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_  
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_  
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_  
INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

\*SEE PAGE 2

**Please note - This form should only be used to report malfunctions  
applicable to Rule 326 IAC 1-6 and to qualify for  
the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1 Applicability of rule**

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

**326 IAC 1-2-39 "Malfunction" definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

\* **Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH**

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

<b>Company Name:</b>	<b>Hartzell Fan, Inc.</b>
<b>Address:</b>	<b>1700 North Meridian Street</b>
<b>City:</b>	<b>Portland, Indiana 47317-1206</b>
<b>Phone #:</b>	<b>260-726-9331</b>
<b>MSOP #:</b>	<b>075-14982-00018</b>

I hereby certify that Hartzell Fan, Inc. is ☒ still in operation.  
☐ no longer in operation.

I hereby certify that Hartzell Fan, Inc. is ☒ in compliance with the requirements of  
MSOP **075-14982-00018**.  
☐ not in compliance with the requirements of  
MSOP **075-14982-00018**.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

<b>Noncompliance:</b>



## Indiana Department of Environmental Management Office of Air Quality

### Addendum to the Technical Support Document for a Minor Source Operating Permit

<b>Source Name:</b>	<b>Hartzell Fan, Inc.</b>
<b>Source Location:</b>	<b>1700 North Meridian Street, Portland, Indiana 47317-1206</b>
<b>County:</b>	<b>Jay</b>
<b>Permit No.:</b>	<b>MSOP 075-14982-00018</b>
<b>SIC Code:</b>	<b>3564</b>
<b>Permit Reviewer:</b>	<b>Michael S. Schaffer</b>

On February 13, 2003, the Office of Air Quality (OAQ) had a notice published in the Commercial Review in Portland, Indiana, stating that Hartzell Fan, Inc. had applied for an operating permit to operate a fan and blower manufacturing source with dry filters as air pollution control. The notice also stated that OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the OAQ has decided to make the following change to the operating permit: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded**):

#### D.2.3 Particulate Control

- 
- (a) Pursuant to F 075-8564-00018, issued on September 26, ~~2002~~ **1997**, and in order to comply with Condition D.2.1(a), the ultra web filter for particulate control shall be in operation and control emissions from the two (2) fiberglass sanding booths, identified as 95-S-1 and 95-S-2, at all times that the two (2) fiberglass sanding booths are in operation.
  - (b) Pursuant to F 075-8564-00018, issued on September 26, ~~2002~~ **1997**, and in order to comply with Condition D.2.1(b), the dry filters for particulate control shall be in operation and control emissions from the one (1) fiberglass sawing station, identified as FG Saw, at all times that the one (1) fiberglass sawing station is in operation.
  - (c) Pursuant to SPR 075-8564-00018, issued on January 18, ~~2002~~ **2000**, and in order to comply with Condition D.2.1(c), at least one (1) of the two (2) baghouses for particulate control shall be in operation and control emissions from the one (1) pneumatic blasting facility, identified as AB-1, at all times that the one (1) pneumatic blasting, identified as AB-1, is in operation.
  - (d) In order to comply with Condition D.2.1(d), the baghouse for particulate control shall be in operation and control emissions from the one (1) pneumatic blasting facility, identified as Cabinet Blaster, at all times the one (1) pneumatic blasting facility, identified as Cabinet Blaster is in operation.

## **Indiana Department of Environmental Management Office of Air Quality**

### **Technical Support Document (TSD) for a Minor Source Operating Permit**

#### **Source Background and Description**

<b>Source Name:</b>	<b>Hartzell Fan, Inc.</b>
<b>Source Location:</b>	<b>1700 North Meridian Street, Portland, Indiana 47317-1206</b>
<b>County:</b>	<b>Jay</b>
<b>SIC Code:</b>	<b>3564</b>
<b>Operation Permit No.:</b>	<b>MSOP 075-14982-00018</b>
<b>Permit Reviewer:</b>	<b>Michael S. Schaffer</b>

The Office of Air Quality (OAQ) has reviewed an application from Hartzell Fan Inc. relating to the operation of a fan and blower manufacturing source.

#### **History**

Hartzell Fan, Inc. was issued a Federally Enforceable State Operating Permit (FESOP 075-8564-00018) on September 26, 1997 for the operation of two (2) paint booths, two (2) fiberglass booths, two (2) fiberglass sanding booths, and one (1) fiberglass sawing booth. Hartzell Fan, Inc. was then issued SPR 075-11389-00018, on January 18, 2000 which granted approval to construct and operate an enclosed pneumatic blasting facility. As part of their FESOP Renewal application, received by IDEM, OAQ, on October 12, 2001, Hartzell Fan, Inc. changed the types of coatings delivered to the applicators in their two (2) paint booths and changed the type of spray applicator used in the two (2) fiberglass booths. These changes have caused the unrestricted potential to emit of styrene from the entire source to be less than ten (10) tons per year and the unrestricted potential to emit any combination of HAPs from the entire source to be less than twenty-five (25) tons per year, which is less than the FESOP thresholds. Furthermore, the unrestricted potential to emit of VOC and PM<sub>10</sub> for the entire source will remain at less one hundred (100) tons per year each, which is also below FESOP thresholds. As a result, on August 19, 2002, Hartzell Fan, Inc. requested to change their pending FESOP Renewal to a Minor Source Operating Permit (MSOP).

#### **Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control devices:

- (a) Two (2) paint booths, identified as P-1 and P-2, constructed in 1975, operating one (1) airless spray gun at a time, equipped with dry filters to control particulate overspray, exhausting through Stacks P-1 and P-2, capacity: 2.00 metal fan parts per hour.
- (b) Two (2) fiberglass spray booths, delivering resin to the applicators, identified as G-1 and G-2, constructed in 1976, operating one (1) mechanical non-atomized spray gun at a time, equipped with dry filters to control particulate overspray, exhausting through Stacks G-1 or G-2, capacity: 0.300 fiberglass fan parts per hour.

- (c) Two (2) fiberglass sanding booths, identified as 95-S-1 and 95-S-2, constructed in 1995, equipped with an ultra web filter for control, exhausting through Stacks 95-S-1 and 95-S-2 which discharge inside the plant, capacity: one (1) 60 pound fan per hour per booth.
- (d) One (1) fiberglass sawing station, identified as FG-Saw, constructed in 1996, equipped with dry filters for particulate control, exhausting through stack FG-Saw which discharges inside the plant, capacity: 300 pounds of raw material per hour.
- (e) One (1) enclosed pneumatic blasting facility, identified as AB-1, constructed in 2000, equipped with a floor recovery system, cyclone separator reclaimer and two (2) baghouses, identified as DFT3-24 and RPH3, capacity: 864 pounds per hour of brown fused aluminum oxide blasting media and 900 pounds per hour of metal and fiberglass fan parts.
- (f) One (1) enclosed pneumatic blasting facility, identified as Cabinet Blaster, using aluminum oxide blasting media, equipped with a baghouse, identified as CB-1, capacity: 354 pounds per hour of brown fused aluminum oxide blasting media and 147 pounds per hour of metal and fiberglass fan parts.
- (g) Source-wide natural gas-fired combustion, consisting of the following:
  - (1) Two (2) test stations, identified as TS-1 and TS-2, constructed in 1970, heat input capacity: 1.00 million British thermal units per hour, total;
  - (2) One (1) air make-up unit, identified as AMU #5, constructed in 1995, heat input capacity: 2.50 million British thermal units per hour;
  - (3) Two (2) air make-up units, identified as AMU #6 and AMU #7, constructed in 1995, heat input capacity: 5.00 million British thermal units per hour, each;
  - (4) Three (3) door heaters, identified as DH-1, DH-2, and DH-3, constructed in 1995, heat input capacity: 0.990 million British thermal units per hour, each;
  - (5) One (1) unit heater, identified as UH-1, constructed in 1995, exhausting through Stack UH-1, heat input capacity: 0.080 million British thermal units per hour;
  - (6) One (1) landa wash booth heater, identified as WB-1, constructed in 1995, exhausting through Stack WB-1, heat input capacity: 0.350 million British thermal units per hour; and
  - (7) One (1) office space heater, identified as OHU #1, constructed in 1998, exhausting through Stack OHU #1, heat input capacity: 0.080 million British thermal units per hour.
- (h) Eight (8) metal inert gas (MIG) welding stations consisting of the following:
  - (1) Two (2) MIG welding stations, identified as WS-2 and WS-6, constructed in 1978, using 4043, 316LHS, or BR-3 welding wire, capacity: 3.00 pounds of welding wire per hour, each;
  - (2) Two (2) MIG welding stations, identified as WS-1 and WS-7, constructed in 1995, using 4043, 316LHS, or BR-3 welding wire, capacity: 3.00 pounds of welding wire per hour, each;

- (3) One (1) MIG welding station, identified as WS-3, constructed in 1996, using 4043, 316LHS, or BR-3 welding wire, capacity: 3.00 pounds of welding wire per hour;
- (4) Two (2) MIG welding stations, identified as WS-4 and WS-5, constructed in 1998, using 4043, 316LHS, or BR-3 welding wire, capacity 3.00 pounds of welding wire per hour, each; and
- (5) One (1) MIG welding station, identified as WS-4030, constructed in 1995, using 4043, 316LHS, or BR-3 welding wire, capacity 3.00 pounds of welding wire per hour.
- (i) Two (2) oxyacetylene flame cutting stations, identified as AO-1 and AO-2, with a rate of thirty (30) inches per minute at a 3/8 inch thickness (formerly insignificant activities in FESOP 075-8564-00018, issued on September 26, 1997).
- (j) Five (5) spot welders, consisting of one (1) spot welding station, identified as SPW-4, constructed in 1975 and four (4) spot welding stations, identified as SPW-1, SPW-2, SPW-3, and SPW-5, constructed in 1996, emitting less than 0.551 pounds of particulate per hour, total.
- (k) One (1) MG Hydefinition machine (plasma cutter), identified as MG-1, equipped with a dust collector with ultra web filter for particulate control, exhausting inside, cuts at 80 inches per minute on 16 gauge hot rolled steel material to 20 inches per minute on 1/4 inch hot rolled steel.
- (l) One (1) portable plasma cutter, exhausting inside, cuts at 12 inches per minute on 3/8 inch hot rolled steel.
- (m) One (1) fiberglass press operation, identified as SMC-1, capacity 10,279 pounds of styrene composite material per year.

### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted facilities operating at this source during this review process.

### **Existing Approvals**

The source has been operating under the following previous approvals including:

- (a) FESOP 075-8564-00018, issued on September 26, 1997; and
- (b) First Significant Permit Revision 075-8564-00018, issued on January 18, 2000.

All terms and conditions from previous approvals issued pursuant to the permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous approvals are superseded by this permit.

The following terms and conditions from previous approvals have been determined to be no longer applicable, and, therefore, are not incorporated into this permit:

FESOP 075-8564-00018, issued on September 26, 1997

- (a) Condition D.1.6, Hazardous Air Pollutants (HAPs) - The amount of any single Hazardous Air Pollutant (HAP) delivered to the applicators shall not exceed 8.4 tons per consecutive twelve (12) month period and the amount of any combination of HAPs delivered to the

applicators shall not exceed 21.8 tons per consecutive twelve (12) month period.

Reason not incorporated: Due to changes in the coatings delivered to the applicators and/or in the gallons of coating delivered to the applicators per unit coated at the two (2) paint booths, identified as P-1 and P-2, and the two (2) fiberglass booths, identified as G-1 and G-2, the potential to emit of any single HAP from the entire source is less than ten (10) tons per year and the potential to emit of any combination of HAPs from the entire source is less than twenty (25) tons per year. Therefore, the requirements of 326 IAC 2-7 do not apply.

- (b) Condition D.1.16, Reporting Requirements - A quarterly summary of the information to document compliance with Condition D.1.6 shall be submitted...

Reason not incorporated: As a result of Condition D.1.6 not being included in this MSOP, Condition D.1.16, which was the reporting requirement for documenting compliance with Condition D.1.6, is no longer being required.

- (c) Condition D.2.5, Visible Emissions Notations (For Fiberglass Sanding and Sawing) - Daily visual inspections shall be performed to verify the placement, integrity and particle loading of the filters...

Reason not incorporated: Visible emission notations are no longer required because the potential to emit particulate from the two (2) fiberglass sanding stations and the one (1) fiberglass sawing station after controls are less than 0.100 pounds per hour each, which is significantly below the allowable particulate emission rate for each unit as interpolated from 326 IAC 6-3-2.

- (d) Condition D.3.1, Volatile Organic Compounds (VOC) - The single HAP from the fiberglass press operations are limited to 0.2 tons per consecutive twelve (12) month period. This limit is necessary in order to ensure that the single HAP emissions from the source are limited to 8.6 tons per year.

Reason not incorporated: The potential to emit of any single HAP at this source is now less than ten (10) tons per year.

- (e) Condition D.3.2, Particulate Matter (PM) - Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the machining operations shall not exceed an allowable PM emission rate based on the following equation...

Reason not incorporated: All machining operations for this source are located within the two (2) fiberglass sanding booths, identified as 95-S-1 and 95-S-2, the one (1) fiberglass sawing station, identified as FG-Saw (Section D.2 of FESOP 075-8564-00018, issued on September 26, 1997). As a result, the former insignificant machining operations listed in Section D.3 of FESOP 075-8564-00018, issued on September 26, 1997 do not exist at this source. Therefore, this condition will not be included this MSOP.

- (f) Condition D.3.4, Record Keeping - The source shall maintain records of HAP emissions from the fiberglass press operations. Any deviations with the limit in Condition D.3.1 shall be reported to IDEM, OAQ within ten (10) working days. A summary of deviations shall be submitted in the annual certification.

Reason Not Incorporated: The limit Condition D.3.1 of FESOP 075-8564-00018, issued on September 26, 1997 will not be included in this MSOP. Thus, record keeping will no longer be required for that limit.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
P-1	Paint Booth	12.0	2.67	12,000	68.0
P-2	Paint Booth	12.0	2.67	12,000	68.0
G-1	Fiberglass Booth	22.0	2.67	12,000	68.0
G-2	Fiberglass Booth	22.0	2.67	12,000	68.0
RPH-3	Baghouse for Pneumatic Blasting	9.00	1.00	1,200	68.0
DFT3-24	Baghouse for Pneumatic Blasting	11.9	1.50	10,000	68.0
OHU #1	Office Heater	32.0	0.33	1.30	175.0
UH-1	Unit Heater	25.0	0.58	1.30	200.0
WB-1	Washbooth Heater	30.0	0.66	5.80	230.0

### Enforcement Issue

There are no enforcement actions pending.

### Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 12, 2001, with additional information received on August 14 and 19, September 19, October 22, November 18, as well as December 10, 11, and 12, 2002.

### Emission Calculations

See Pages 1 through 10 of 10 of Appendix A of this document for detailed emissions calculations. The five (5) spot welding stations have been assumed to have a potential to emit PM and PM<sub>10</sub> of 0.551 pounds per hour equivalent to 2.41 tons per year.

#### Plasma Flame Cutting

- (a) Assuming that the cut for the MG Hydefinition machine is 1/8-inch wide, with the stated metal thickness of 0.0635 inch (16 gauge equivalent) and a cutting rate of 80 inches per minute results in 38.1 cubic inches per hour cut. Using the density of iron, 0.72255 pounds per cubic inch, 38.1 cubic inches per hour = 27.5 pounds per hour. Assuming 1% of the metal cut is converted to fumes, the particulate emission rate is 0.381 pounds per hour, or 1.67 tons per year, before controls. The plasma cutter is equipped with a dust collector with ultra web filter for particulate control. The control efficiency is 99.9%. Therefore, potential to emit after controls is 1.67 tons per year X (1-.999) = 0.00167 tons per year, which is

equivalent to 0.00038 pounds per hour.

Note that the 1/4 inch thickness at a cutting rate of 20 inches per minute was not used in this calculation because the 1/8 inch thickness at a cutting rate of 80 inches per minute has been calculated to be the “worst case” particulate emissions for the one (1) plasma cutter, identified as MG-1.

- (b) Assuming that the cut for the portable plasma cutter is 1/8-inch wide, with the stated metal thickness of 3/8 inches and a cutting rate of 12 inches per minute results in 33.8 cubic inches per hour cut. Using the density of iron, 0.72255 pounds per cubic inch, 33.8 cubic inches per hour = 24.4 pounds per hour. Assuming 1% of the metal cut is converted to fumes, the particulate emission rate is 0.244 pounds per hour, or 1.07 tons per year.

### Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	100.7
PM <sub>10</sub>	85.2
SO <sub>2</sub>	0.045
VOC	18.8
CO	6.25
NO <sub>x</sub>	7.44

Single HAPs	Potential To Emit (tons/year)
Xylene	0.728
Glycol Ethers	3.00
Methyl Methacrylate	0.196
Triethylamine	1.02
Styrene	3.91
Antimony	0.106
Benzene	0.0002
Dichlorobenzene	0.0001
Formaldehyde	0.006
Hexane	0.134

Single HAPs	Potential To Emit (tons/year)
Toluene	0.0003
Lead	0.00004
Cadmium	0.0001
Chromium	0.109
Manganese	0.276
Nickel	0.125
Worst Case Total	7.43

Note that the worst case total HAPs are not equal to the sum of the worst case single HAPs. See pages 1 of 10 of 10 of Appendix A for detailed information on HAPs emissions.

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM and PM<sub>10</sub> are equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1.
- (b) Fugitive Emissions  
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Actual Emissions

No previous emission data has been received from the source.

### Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Two (2) Paint Booths	0.081	0.081	-	14.5	-	-	Single 3.00 Total 3.00
Two (2) Fiberglass Booths	0.260	0.260	-	3.89	-	-	Single 3.89 Total 3.89
Fiberglass Sanding and Sawing (FG-Saw)	0.106	0.106	-	-	-	-	Single 0.001 Total 0.001



	<b>Limited Potential to Emit</b> (tons/year)						
Process/facility	PM	PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Two (2) Pneumatic Blasting Facilities	0.367	0.257	-	-	-	-	-
Source-wide Natural Gas Combustion	0.141	0.565	0.045	0.385	6.25	7.44	Single 0.134 Total 0.140
Three (3) MIG Welding Stations	2.53	0.578	-	-	-	-	Single 0.272 Total 0.272
One (1) Oxyacetylene Cutting Station	0.959	0.218	-	-	-	-	Single 0.003 Total 0.005
Two (2) Plasma Cutters	1.07	1.07	-	-	-	-	-
Spot Welding Stations	2.41	2.41	-	-	-	-	-
One (1) Fiberglass Press Operation	-	-	-	0.019	-	-	Single 0.019 Total 0.019
<b>Total Emissions</b>	<b>7.92</b>	<b>5.55</b>	<b>0.045</b>	<b>18.8</b>	<b>6.25</b>	<b>7.44</b>	<b>Single 3.91 Total 7.32</b>

### County Attainment Status

The source is located in Jay County.

Pollutant	Status
PM <sub>10</sub>	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Jay County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

- (b) Jay County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### **Part 70 Permit Determination**

#### **326 IAC 2-7 (Part 70 Permit Program)**

This existing source, including the emissions from this permit MSOP 075-14982-00018, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than one hundred (100) tons per year,
- (b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (c) any combination of HAPs is less than twenty-five (25) tons per year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

### **Federal Rule Applicability**

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20, 40 CFR 61 and 40 CFR Part 63) applicable to this source.

### **State Rule Applicability - Entire Source**

#### **326 IAC 2-6 (Emission Reporting)**

This source is located in Jay County and the potential to emit PM<sub>10</sub>, CO, VOC, SO<sub>2</sub> and NO<sub>x</sub> is less than one hundred (100) tons per year, therefore, 326 IAC 2-6 does not apply.

#### **326 IAC 5-1 (Opacity Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

### State Rule Applicability - Individual Facilities

On June 12, 2002, revisions to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) became effective; this rule was previously referred to as 326 IAC 6-3 (Process Operations). As of the date this permit is being issued these revisions have not been approved by EPA into the Indiana State Implementation Plan (SIP); therefore, the following requirements from the previous version of 326 IAC 6-3 (Process Operations) which has been approved into the SIP will remain applicable requirements until the revisions to 326 IAC 6-3 are approved into the SIP and the condition is modified in a subsequent permit action.

#### 326 IAC 6-3 (Process Operations)

Pursuant to F 075-8564-00018, issued on September 26, 1997 and 40 CFR 52 Subpart P, the particulate matter (PM) from the two (2) paint booths, identified as P-1 and P-2, and the two (2) fiberglass booths, identified as G-1 and G-2 shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

Pursuant 326 IAC 6-3-2(d), under the rule revision, particulate from the shall be controlled by a dry particulate filter and the Permittee shall operate the control device in accordance with manufacturer's specifications.

#### 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

- (a) Pursuant to 326 IAC 6-3-2(e)(2), (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the two (2) fiberglass sanding booths, identified as 95-S-1 and 95-S-2, shall not exceed 0.551 pounds per hour each when operating at a process weight rate of less than 100 pounds per hour.

The ultra web filters shall be in operation at all times the two (2) fiberglass sanding booths are in operation, in order to comply with this limit. The potential particulate emission rate after controls at the two (2) fiberglass sawing stations is 0.000006 pounds per hour each. Therefore, the two (2) fiberglass sanding stations are in compliance with this limit.

- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) fiberglass sawing station, identified as FG-Saw, shall not exceed 1.15 pounds per hour when operating at a process weight rate of 300 pounds (0.150 tons) per hour. This limitation is based upon the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The dry filters shall be in operation at all times the one (1) fiberglass sanding booth is in operation, in order to comply with this limit. The potential particulate emission rate after controls at the one (1) fiberglass sanding booth is 0.242 pounds per hour. Therefore, the one (1) fiberglass sanding booth is in compliance with this limit.

- (c) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) pneumatic blasting facility, identified as AB-1, constructed in 2000, shall not exceed 3.77 pounds per hour each when operating at a process weight rate of 1,764 pounds (0.882) tons per hour. This limitation is based upon the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

At least one (1) of the two (2) baghouses shall be in operation at all times the one (1) pneumatic blasting facility, identified as AB-1, is in operation, in order to comply with this limit. The potential particulate emission rate after controls at the one (1) pneumatic blasting facility is 0.066 pounds per hour. Therefore, the one (1) pneumatic blasting facility is in compliance with this limit.

- (d) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) pneumatic blasting facility, identified as Cabinet Blaster, shall not exceed 1.62 pounds per hour each when operating at a process weight rate of 501 pounds (0.2505 tons) per hour. This limitation is based upon the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The baghouse shall be in operation at all times the one (1) pneumatic blasting facility, identified as Cabinet Blaster is in operation, in order to comply with this limit. The potential particulate emission rate after controls at the one (1) pneumatic blasting facility is 0.012 pounds per hour. Therefore, the one (1) pneumatic blasting facility is in compliance with this limit.

- (e) Pursuant to 326 IAC 6-3-1(b)(9), the eight (8) metal inert gas (MIG) welding stations, identified as WS-1 through WS-7 and WS-4030, are not subject to the requirements of 326 IAC 6-3-2 because less than a total of 625 pounds of rod or wire per hour is consumed by those stations.
- (f) Pursuant to 326 IAC 6-3-1(b)(10), the two (2) oxyacetylene flame cutting stations, identified as AO-1 and AO-2, are not subject to the requirements of 326 IAC 6-3-2 because those stations cut less than 3,400 inches per hour of stock less than one (1) inch thick.

- (g) Pursuant to 326 IAC 6-3-1(b)(14), the five (5) spot welding stations, identified as SPW-1 through SPW-5, are not subject to the requirements of 326 IAC 6-3-2 because potential particulate emissions from the five (5) spot welding stations are less than a total of 0.551 pounds per hour.
- (h) Pursuant to 326 IAC 6-3-1(b)(14), the one (1) MG Hydefinition machine (plasma cutter) and the one (1) portable plasma cutter are not subject to the requirements of 326 IAC 6-3-2 because potential particulate emissions from the plasma cutter are less 0.551 pounds per hour each.

#### 326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The potential to emit VOC from the two (2) fiberglass spray booths, identified as G-1 and G-2, constructed in 1976, is less than twenty-five (25) tons per year. Therefore since the booths predate the January 1, 1980 applicability date, the requirements of 326 IAC 8-1-6 are not applicable.

Any reconstruction that increases the potential to emit VOC from the two (2) fiberglass spray booths, identified as G-1 and G-2, to greater than or equal to twenty-five (25) tons per year, may render the requirements of 326 IAC 8-1-6 applicable and require prior IDEM, OAQ approval.

Note that a reconstruction is defined as a change or modification to an existing emission unit where the installation cost is less than 50% of the replacement cost of the emission unit. If the source in the future chooses to reconstruct the two (2) fiberglass spray booths, the two (2) fiberglass spray booths will be treated as new emission units and may become subject to the requirements of 326 IAC 8-1-6 as a result.

#### 326 IAC 8-2-9 (Miscellaneous Metal Coating)

The potential to emit of the two (2) paint booths, identified as P-1 and P-2, constructed in 1975, located in Jay County, is less than twenty-five (25) tons per year total. However, pursuant to Condition D.1.9 of F 075-8564-00018, issued on September 26, 1997 the two (2) paint booths were subject to the requirements 326 IAC 8-2-9 for the surface coating of metal fan parts. Pursuant to 326 IAC 8-1-1(b), facilities that are subject to an article in an enforceable permit shall continue to be subject that rule, unless the potential to emit from that facility is limited to less than fifteen (15) pounds of VOC per day. As a result, Hartzell Fan, Inc. has elected to remain subject to the requirements of 326 IAC 8-2-9 for the operation of the two (2) paint booths. Therefore, the following requirements apply to the two (2) paint booths:

Pursuant to 326 IAC 8-2-9(d) this source may not cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of the following while the two (2) paint booths, identified as P-1 and P-2, are in operation:

- (a) Forty-two hundredths (0.42) kilograms per liter (three and five-tenths (3.5) pounds per gallon) of coating, excluding water, is delivered to a coating applicator that applies air dried or forced warm air dried. Air dried or forced warm air dried coatings are coatings designed for exposure to temperatures consistently above ninety-five degrees Celsius (90EC) (one hundred ninety-four degrees Fahrenheit (194EF)).

Pursuant to 326 IAC 8-2-9 (e), if more than one (1) emission limitation applies to a specific coating, then the least stringent emission limitation shall be applied.

- (b) Pursuant to 326 IAC 8-2-9 (f), solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS for Thinner T-10 submitted by the source and calculations made, the two (2) paint booths, identified as P-1 and P-2, are not in compliance with this requirement. The source shall comply with this rule by calculating the daily volume weighted average of VOC content for the two (2) paint booths, identified as P-1 and P-2, using the following equation:

$$A = [ 3 C \times U ] / 3 U$$

Where: A is the volume weighted average in pounds VOC per gallon less water as applied;

C is the VOC content of the coating in pounds VOC per gallon less water as applied; and

U is the usage rate of the coating in gallons per day.

#### 326 IAC 8-6 (Organic Solvent Emission Limitation)

Although, this source commenced operation after October 7, 1974 and prior to January 1, 1980, the potential to emit VOC is less than one hundred (100) tons per year. Therefore, the requirements of 326 IAC 8-6 are not applicable.

#### 326 IAC 20-25 (Emissions from Reinforced Plastics Composites Fabricating Emission Units)

This source does not have the potential to emit of any single hazardous air pollutant (HAP) greater than ten (10) tons per year and any combination of HAPs greater than twenty-five tons per year. Therefore, the requirements of 326 IAC 20-25 are not applicable.

### Compliance Requirements

Permits issued under 326 IAC 2-6.1 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-6.1. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

(a) The compliance monitoring requirements applicable to this source are as follows:

- (1) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters for the two (2) paint booths, identified as P-1 and P-2 and the two (2) fiberglass spray booths, identified as G-1 and G-2. To monitor the performance of the dry filters, weekly observations shall be made of the overspray while these facilities are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take

response steps in accordance with Section C - Compliance Monitoring Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

- (2) Monthly inspections shall be performed of the coating emissions from the two (2) paint booths, identified as P-1 and P-2 and the two (2) fiberglass spray booths, identified as G-1 and G-2, stack exhausts, for the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an overspray emission, evidence of overspray emission, or other abnormal emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.
- (3) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

The dry filters must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 5-1.

- (b) Compliance monitoring will not be required for the two (2) pneumatic abrasive blasting facilities, identified as AB-1 and Cabinet Blaster, because the two (2) pneumatic abrasive blasting facilities are enclosed units and the potential to emit particulate after control is less than 0.100 pounds per hour each, which is significantly below the allowable particulate emission rate for each unit as interpolated from 326 IAC 6-3-2.

## Conclusion

The operation of this fan and blower manufacturing source shall be subject to the conditions of the attached proposed Minor Source Operating Permit 075-14982-00018. This MSOP will supersede FESOP 075-8564-00018, issued on September 26, 1997 and First Significant Permit Revision 075-8564-00018, issued on January 18, 2000.

**Appendix A: Emissions Calculations  
VOC and Particulate  
From Surface Coating Operations**

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**Company Name: Hartzell Fan, Inc.  
Address City IN Zip: 1700 North Meridian Street, Portland, Indiana 47317-1206  
MSOP: 075-14982  
Plt ID: 075-00018  
Reviewer: Michael S. Schaffer  
Date: October 12, 2001**

**Substrate: Metal Fan Parts**

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency
<b>Paint Booths P-1 &amp; P-2</b>																
Egyptian EQA-L354	9.90	67.60%	57.6%	10.0%	61.4%	25.00%	0.500	2.00	2.56	0.99	0.99	23.8	4.34	3.51	3.96	75%
Sher Kem Aqua 280	6.93	63.00%	44.0%	19.0%	47.0%	29.00%	0.500	2.00	2.48	1.32	1.32	31.6	5.77	2.81	4.54	75%
Sher Will Dura Pox (As Mixed)	11.44	37.10%	27.4%	9.7%	45.0%	40.60%	0.236	2.00	2.02	1.11	0.52	12.57	2.29	3.72	2.73	75%
Thinner T-10	6.93	100.00%	0.0%	100.0%	0.0%	0.00%	0.030	2.00	6.93	6.93	0.42	9.98	1.82	0.00	N/A	75%
Sher Will B54 VOC Compliant	8.26	40.00%	0.0%	40.0%	0.0%	49.90%	0.500	2.00	3.30	3.30	3.30	79.3	14.5	5.43	6.62	75%

PM Control Efficiency 98.5%

**State Potential Emissions**

**Add worst case coating to all solvents**

**"Worst Case" Uncontrolled  
"Worst Case" Controlled**

**3.30 79.3 14.5 5.43  
3.30 79.3 14.5 0.081**

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) \* Weight % Organics) / (1-Volume % water)  
Pounds of VOC per Gallon Coating = (Density (lbs/gal) \* Weight % Organics)  
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)  
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)  
Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \* (8760 hrs/yr) \* (1 ton/2000 lbs)  
Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)  
Total = Worst Coating + Sum of all solvents used



**Appendix A: Emission Calculations**  
**HAP Emission Calculations**

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**Company Name: Hartzell Fan, Inc.**  
**Address City IN Zip: 1700 North Meridian Street, Portland, Indiana 47317-1206**  
**MSOP: 075-14982**  
**Plt ID: 075-00018**  
**Reviewer: Michael S. Schaffer**  
**Date: October 12, 2001**

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Glycol Ethers	Weight % Methyl Methacrylate	Weight % Triethylamine	Xylene Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Methyl Methacrylate Emission (tons/yr)	Triethylamine Emissions (tons/yr)
<b>Paint Booths P-1 &amp; P-2</b>											
Egyptian EQA-L354	9.90	0.500	2.00	0.00%	6.92%	0.00%	0.00%	0.00	3.00	0.000	0.00
Sher Will Kem Aqua 280	8.93	0.500	2.00	0.00%	0.00%	0.50%	2.60%	0.00	0.00	0.196	1.02
Shir Will Dura Pox	10.43	0.236	2.00	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.000	0.00
Shir Will Dura Pox	8.82	0.236	2.00	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.000	0.00
Thinner T-10	6.93	0.030	2.00	40.00%	0.00%	0.00%	0.00%	0.728	0.00	0.000	0.00
Sher Will B54 VOC Compliant	8.26	0.500	2.00	0.00%	2.00%	2.00%	2.00%	0.00	0.724	0.000	0.724
<b>"Worst Case" Individual Total</b>								<b>0.728</b>	<b>3.00</b>	<b>0.196</b>	<b>1.02</b>
<b>"Worst Case" Overall Total</b>								<b>3.00</b>			

**METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

**Appendix A: Emissions Calculations  
Reinforced Plastics and Composites  
Open Molding Operations\*  
Resin Usage**

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**Company Name: Hartzell Fan, Inc.  
Address City IN Zip: 1700 North Meridian Street, Portland, Indiana 47317-1206  
MSOP: 075-14982  
Plt ID: 075-00018  
Reviewer: Michael S. Schaffer  
Date: October 12, 2001**

Emission Unit ID	Material (Resin Name)	Density (Lb/Gal)	Weight % Monomer	Gal of Mat. (gal/unit)	Maximum usage (unit/hour)	UEF (lbs monomer/ton resin)	Potential VOC/HAP (pounds per day)	Potential VOC/HAP (tons per year)	Transfer Efficiency	Potential PM (tons/ year)
<b>Fiberglass spray booth G-1 and G-2</b>	Hetron 693	10.3	34.00%	7.80	0.300	74	21.30	3.89	75%	17.3

**Total VOC/HAP and PM from Resin Use**

**3.89**

**17.3**

\* Open Molding Operations include the following: mechanical non atomized application  
note: G-2 is a backup booth

PM Control Efficiency: 98.5%  
**PM Emission After Controls: 0.260**

**METHODOLOGY**

Assume all of the monomer is styrene.

UEF: The United Emission Factor is the emission factor for the resin styrene content that can be determined using the UEF Table.  
Potential VOC (lb/day) for resins = Density (lb material /gal material) \* Gal. of material (gal material/unit) \* Maximum usage (unit/hr) \* UEF (lb styrene/ton material) \* 24 hrs/day \* 1 ton material/2000  
Potential VOC (ton/year) = Potential VOC (lb/day) \* 365 days/year \* (1 ton/2000 lb)  
Potential PM (ton/year) = Density \* (1 - Weight % monomer or VOC) \* Gal. of Material \* Maximum Usage \* (1 - transfer efficiency) \* 24 hrs/day \* 365 days/year \* (1 ton/2000 lb)  
PM Emissions x (1 - Pm Control Efficiency) = PM Emission After Controls

**Appendix A: Fiberglass Sand and Saw Emissions  
Particulate Emission Calculations**

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**Company Name: Hartzell Fan, Inc.  
Address City IN Zip: 1700 North Meridian Street, Portland, Indiana 47317-1206  
MSOP: 075-14982  
Pit ID: 075-00018  
Reviewer: Michael S. Schaffer  
Date: October 12, 2001**

**Fiberglass Sand:**

Number of Sanding Stations	Maximum Sanded (lbs/hr)	Emission Factor (lbs PM/lb sanded)	Potential PM Emissions (lbs/hr)	Potential PM Emissions (tons/yr)	Ultra Web Filter Control Efficiency (tons/yr)	PM Emssions After Controls (tons/yr)
2.000	60.000	0.010	1.200	5.256	0.99999	0.000053

**Fiberglass Saw:**

Number of Sawing Stations	Dust Collected (tons/yr)	Filter Control Efficiency	Actual PM Emissions before controls (tons/yr)	Actual Operating hours per year	Potential PM Emissions Before Controls (tons/yr)	Dry Filter Control Efficiency	PM Emssions After Controls (tons/yr)	Weight % Antimony in fiberglass dust (lbs Antimony/lb PM)	Potential PM Emssions before controls (tons/yr)	Potential Antimony Emissions (tons/yr)
1.00	1.50	0.99	1.52	1250	10.6	0.99	0.106	0.01	10.6	0.106

**Totals:**

Total Potential PM Emissions (tons/yr)	Total PM Emssions After Controls (tons/yr)	Potential Antimony Emissions After PM Controls (tons/yr)
15.9	0.106	0.001

**Methodology:**

Fiberglass sand: PM Emissions (tons/yr) = number of stations x maximum sanded per station (lbs/hr) x emission factor computed by the source (lbs PM/lb) x 8760/2000.

Fiberglass saw: Actual PM Emission before controls (tons/yr) = dust collected (tons/yr) / control efficiency; Potential PM Emission (tons/yr) = actual emissions (tons/yr) x 8760 / actual operating hours per year

# Appendix A: Emission Calculations

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## Abrasive Blasting - Confined

Company Name: Hartzell Fan, Inc.  
 Address City IN Zip: 1700 North Meridian Street, Portland, Indiana 47317-1206  
 MSOP: 075-14982  
 Plt ID: 075-00018  
 Reviewer: Michael S. Schaffer  
 Date: October 12, 2001

One (1) enclosed pneumatic blasting facility (AB-1)

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

## Calculations

Flow Rate (FR) of brown fused aluminum oxide provided by the source (lb/hr) = 864 per nozzle

## Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 = 0.010  
 FR = Flow Rate (lb/hr) = 864  
 w = fraction of time of wet blasting = 0  
 N = number of nozzles = 1

Uncontrolled PM Emissions =	8.64 lb/hr
	37.8 ton/yr

Uncontrolled PM10 Emissions =	6.05 lb/hr
	26.5 ton/yr

Minimum Control Efficiency 99.85%

Controlled PM Emissions =	0.013 lb/hr
	0.057 ton/yr

Controlled PM10 Emissions =	0.009 lb/hr
	0.040 ton/yr

## METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = Flow Rate Provided by the Source

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations**

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**Abrasive Blasting - Confined**

**Company Name:** Hartzell Fan, Inc.  
**Address City IN Zip:** 1700 North Meridian Street, Portland, Indiana 47317-1206  
**MSOP:** 075-14982  
**Plt ID:** 075-00018  
**Reviewer:** Michael S. Schaffer  
**Date:** October 12, 2001

One (1) enclosed pneumatic blasting facility (Cabinet Blaster)

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Calculations****Flow Rate (FR) of brown fused aluminum oxide provided by the source (lb/hr) =** 354 per nozzle**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

FR = Flow Rate (lb/hr) =

w = fraction of time of wet blasting =

N = number of nozzles =

0.010
354
0
1

<b>Uncontrolled PM Emissions =</b>	<b>3.54 lb/hr</b>
	<b>15.5 ton/yr</b>

<b>Uncontrolled PM10 Emissions =</b>	<b>2.48 lb/hr</b>
	<b>10.9 ton/yr</b>

Minimum Control Efficiency 98.00%

<b>Controlled PM Emissions =</b>	<b>0.071 lb/hr</b>
	<b>0.310 ton/yr</b>

<b>Controlled PM10 Emissions =</b>	<b>0.050 lb/hr</b>
	<b>0.217 ton/yr</b>

**METHODOLOGY**

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = Flow Rate Provided by the Source

 $E = EF \times FR \times (1-w/200) \times N$ 

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

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**Company Name: Hartzell Fan, Inc.  
Address City IN Zip: 1700 North Meridian Street, Portland, Indiana 47317-1206  
MSOP: 075-14982  
Plt ID: 075-00018  
Reviewer: Michael S. Schaffer  
Date: October 12, 2001**

Heat Input Capacity  
MMBtu/hr

17.0

Potential Throughput  
MMCF/yr

149

Source-wide natural gas-fired combustion

Two (2) testing stations @ 1.00 MMBtu/hr, total  
One (1) air makeup unit @ 2.50 MMBtu/hr  
Two (2) air makeup units @ 5.00 MMBtu/hr, each  
Three (3) door heaters @ 0.990 MMBtu/hr, each  
One (1) unit heater @ 0.080 MMBtu/hr, each  
One (1) land wash booth heater @ 0.350 MMBtu/hr  
One (1) office space heat @ 0.080 MMBtu/hr

Pollutant						
Emission Factor in lb/MMCF	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100	5.50	84.0
				**see below		
Potential Emission in tons/yr	0.141	0.565	0.045	7.44	0.409	6.25

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 8 for HAPs emissions calculations.

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100  
HAPs Emissions**

**Page 8 of 10 TSD App A**

**Company Name: Hartzell Fan, Inc.  
Address City IN Zip: 1700 North Meridian Street, Portland, Indiana 47317-1206  
MSOP: 075-14982  
Plt ID: 075-00018  
Reviewer: Michael S. Schaffer  
Date: October 12, 2001**

**HAPs - Organics**

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	0.0002	0.0001	0.006	0.134	0.0003

**HAPs - Metals**

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03	Total HAPs
Potential Emission in tons/yr	0.00004	0.0001	0.0001	0.00003	0.0002	0.140

Methodology is the same as page 7.

The five highest organic and metal HAPs emission factors are provided above.  
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Source-wide natural gas-fired combustion

Two (2) testing stations @ 1.00 MMBtu/hr, total  
One (1) air makeup unit @ 2.50 MMBtu/hr  
Two (2) air makeup units @ 5.00 MMBtu/hr, each  
Three (3) door heaters @ 0.990 MMBtu/hr, each  
One (1) unit heater @ 0.080 MMBtu/hr, each  
One (1) landa wash booth heater @ 0.350 MMBtu/hr  
One (1) office space heat @ 0.080 MMBtu/hr

# Appendix A: Welding and Thermal Cutting

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Company Name: Hartzell Fan, Inc.  
Address City IN Zip: 1700 North Meridian Street, Portland, Indiana 47317-1206  
MSOP: 075-14982  
Plt ID: 075-00018  
Reviewer: Michael S. Schaffer  
Date: October 12, 2001

## Eight (8) metal inert gas (MIG) welding stations and two (2) flame cutting stations

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS * (lb pollutant / lb electrode)				EMISSIONS (lb/hr)				TOTAL HAPs (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Metal Inert Gas (MIG)(4043)	8.00	3.00		0.0241	0.00003		0.00001	0.578	0.001	0.00	0.0002	0.001
Metal Inert Gas (MIG)(316LHS)	8.00	3.00		0.0032	0.00008	0.001184	0.001024	0.077	0.002	0.028	0.025	0.055
Metal Inert Gas (MIG)(BR-3)	8.00	3.00		0.0052	0.0026			0.125	0.062	0.00	0.00	0.062
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)				EMISSIONS (lbs/hr)				TOTAL HAPs (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	2.00	0.375	30.0	0.162	0.0005	0.0001	0.0003	0.219	0.0007	0.0001	0.0004	0.001
EMISSION TOTALS								PM = PM10	Mn	Ni	Cr	Total HAPs
Worst Case Potential Emissions lbs/hr								0.797	0.063	0.029	0.025	0.064
Worst Case Potential Emissions lbs/day								19.1	1.51	0.685	0.600	1.53
Worst Case Potential Emissions tons/year								3.49	0.276	0.125	0.109	0.279

Note that the default PM/PM10 Emission Factor was used for 4043, the AP-42 PM/PM10 Emission Factor for ER316 was used for 316LHS, and the AP-42 PM/PM10 Emission Factor for ER70S was used for BR-3.

The PM/PM10 Emission Factors were used based on the classification in the welding wire MSDSs as provided by the source.

The HAPs for the MIG Welding stations were based on the weight % of each HAP as stated in the MSDSs.

The Potential to Emit from the three (3) MIG welding stations is based on the "worst case" potential to emit of each pollutant.

Only one (1) type wire can be used in the MIG welding stations at a time

## METHODOLOGY

\*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column. Consult AP-42 or other reference for different electrode types.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.

Plasma cutting emission factors are from the American Welding Society study published in Sweden (March 1994).

Welding and other flame cutting emission factors are from an internal training session document.

See AP-42, Chapter 12.19 for additional emission factors for welding.



**Appendix A: Emissions Calculations  
From Fiberglass Press Operations**

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**Company Name:** Hartzell Fan, Inc.  
**Address City IN Zip:** 1700 North Meridian Street, Portland, Indiana 47317-1206  
**MSOP:** 075-14982  
**Plt ID:** 075-00018  
**Reviewer:** Michael S. Schaffer  
**Date:** October 12, 2001

**One (1) fiberglass press operation (SMC Press)**

Potential Styrene Composite Material Usage (lbs/yr)	Percentage of Styrene in the Composite Material Used	Emission Factor (lbs of Styrene / lb of Material)	Potential to Emit Styrene (lbs/yr)	Potential to Emit Styrene (tons/yr)
10279	18.0%	0.020	37.0	<b>0.019</b>

**Methodology**

Potential Styrene Composite Material Usage in lbs/yr x Percentage Styrene in the Composite Material x Emission Factor in lbs of styrene / lb of material =

Potential to Emit Styrene in lbs/yr x 2000 lbs/ton = Potential to Emit Styrene in tons/yr

Note that Styrene Emissions for this emission unit will also be counted as VOC in emission calculations